

A METHOD OF TRACKING IN PRODUCTION
IN A PLANT FOR LIQUID FOODS

ATTACHMENT A

TABLE REPORT

Table Report

AccessData

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. NodeGroup_ID</u>		
<u>3. Area_ID</u>		
<u>4. User_UserGroup_ID</u>	Notes:	The time stamp for when the row was inserted
<u>5. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>6. ConfiguredBy</u>		

Alarm

Notes:

The Alarm table consist the logging configuration of all alarms.

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Tagname</u>		
<u>3. AlarmGroup</u>		
<u>4. Description</u>		
<u>5. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>6. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

AlarmLog

Notes:

The AlarmLog table consist of a relation to all alarms that are logged in the Wonderware InTouch Alarm Log.

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>		
<u>3. IT_AlarmMaster_AlarmID</u>	Notes:	Refers to the AlarmMaster database generated by Wonderware InTouch

Area

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Description</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

AreaFunction

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Area_ID</u>		
<u>3. FunctionBitKey</u>		
<u>4. Description</u>		
<u>5. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>6. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

BatchLog

Notes: The BatchLog table consists of all registered batches.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Created</u>	Notes:	Time when the batch was registered

BatchLog_WorkLog

Notes: The BatchLog_WorkLog table builds the relation between the BatchLog table and the WorkLog table. Thereby it is possible to find out which WorkID's that is connected to which batches.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. BatchLog_ID</u>	Notes:	
<u>3. WorkLog_ID</u>	Notes:	

CalculationType

Notes: The CalculationType table consist of the different calculation types that are included, e.g. TimeToSetpoint.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Description</u>	Notes:	
<u>3. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>4. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

CIPCircuit

Notes: The CIPCircuit table contains the different CIP circuits.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	
<u>3. CIPSystem</u>	Notes:	
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

CIPEventInfoCause

Notes: The CIPEventInfoCause table contains the description of all the CIP causes that can be reported by the system. The content is then used in the CIPEventInfoLog table.

Column details

<u>1. ID</u>	Notes:	The ID from the PLC
<u>2. PLC_ID</u>	Notes:	
<u>3. Description</u>	Notes:	
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

CIEventInfoLog

Notes:

The CIEventInfoLog table holds current and historical information of CIP phases that have entered and left Held status during the execution of phases.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. CIEventLog_ID</u>		
<u>3. StartDateTime</u>		
<u>4. EndDateTime</u>		
<u>5. CIEventInfoCause_Description</u>		
<u>6. CausedBy</u>		
<u>7. CauseEndedBy</u>		
<u>8. PhaseStatus</u>		

CIEventLog

Notes:

The CIEventLog table holds current and historical information of CIP phase execution.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. UnitName</u>		
<u>3. StartDateTime</u>		
<u>4. EndDateTime</u>		
<u>5. CIPProgram_Description</u>	Notes:	Describes which CIP program that was running
<u>6. CIPResult_Description</u>	Notes:	Describes the result of the CIP, e.g. 'cleaned' and 'not cleaned'
<u>7. CIPCircuit</u>		
<u>8. PhaseStatus</u>	Notes:	To view wheather the phase were Done or Aborted
<u>9. PhaseInstantCounter</u>		
<u>10. StartedBy</u>		
<u>11. EndedBy</u>		
<u>12. OverrideBy</u>		
<u>13. OverrideCause</u>		

CIEventParameterLog

Notes:

The CIEventParameterLog table holds additional information on parameters that is supposed to be logged together with the CIP phase. The information is time based, aggregated information that is retrieved and calculated based on information from Wonderware InSQL.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. CIEventLog_ID</u>		
<u>3. PhaseParameter_Name</u>		
<u>4. PhaseParameter_TransmitterType</u>		
<u>5. PhaseParameter_EngineeringUnit</u>	Notes:	Describes the engineering unit for the specific phase, e.g. kg or l
<u>6. PhaseParameter_MinEU</u>		
<u>7. PhaseParameter_MaxEU</u>		
<u>8. AnalogueDiscrete</u>		
<u>9. Maximum</u>	Notes:	Maximum value for certain parameter during phase operation.
<u>10. Minimum</u>	Notes:	Minimum value for certain parameter during phase operation.
<u>11. Average</u>	Notes:	Average value for certain parameter during phase operation.
<u>12. Summary</u>	Notes:	Summary value for certain parameter during phase operation.
<u>13. StartValue</u>	Notes:	Starting value of the parameter when phase went to Run
<u>14. EndValue</u>	Notes:	Ending value of the parameter when phase went to Done or Aborted

TPMDB_Doc_TablesAndColumns

CIPProgram

Notes: The CIPProgram table contains descriptions of all the CIP programs that can be reported by the system.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. PLC_ID</u>	Notes:	The ID from the PLC
<u>3. Description</u>	Notes:	The time stamp for when the row was inserted
<u>4. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user

CIPResult

Notes: The CIPResult table contains descriptions of all the CIP result statuses that can be reported by the system.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. PLC_ID</u>	Notes:	The ID from the PLC
<u>3. Description</u>	Notes:	The time stamp for when the row was inserted
<u>4. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user

CIPStepGroupLog

Notes: The CIPStepGroupLog table log the different step groups, i.e. in which order they where executed and between which step numbers the step group was evaluating.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. CIPEventLog_ID</u>	Notes:	
<u>3. StartStep_StepNumber</u>	Notes:	
<u>4. EndStep_StepNumber</u>	Notes:	
<u>5. StartDateTime</u>	Notes:	
<u>6. EndDateTime</u>	Notes:	
<u>7. Tagname_StepSequence</u>	Notes:	
<u>8. CIPStepGroundOrder_Order</u>	Notes:	

CIPStepGroupOrder

Notes: The CIPStepGroupOrder table consist of the order in which the step groups occurs within certain CIP recipes.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. CIPProgram_ID</u>	Notes:	
<u>3. StepGroup_ID</u>	Notes:	
<u>4. StepGroupOrder</u>	Notes:	

Notes: The time stamp for when the row was inserted
Notes: The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

CIPStepGroupParameter

Notes:

The CIPStepGroupParameters consist of different parameters that are supposed to be logged and their relation to different step groups.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. StepGroup_ID</u>		
<u>3. CalculationType_ID</u>		
<u>4. Tagname</u>		
<u>5. Tagname_Setpoint</u>	Notes:	Allowed deviations, e.g. three flucturations or less is accepted
<u>6. AllowedDeviation</u>		
<u>7. Deadband_Low</u>		
<u>8. Deadband_High</u>		
<u>9. StepGroupOrder</u>		
<u>10. Description</u>		
<u>11. EngineeringUnit</u>	Notes:	The time stamp for when the row was inserted
<u>12. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>13. ConfiguredBy</u>		

CIPStepParameterLog

Notes:

The CIPStepParameterLog table hold the CIP step group parameters.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. CIPStepLog_ID</u>		
<u>3. CIPStepGroupParameter_Description</u>		
<u>4. CalculationTypeEngineeringUnit</u>		
<u>5. CIPStepGroupOrder</u>		
<u>6. ResultValue</u>	Notes:	If the result was out of range. 0 = within range 1 = out of range
<u>7. CompareValue</u>		
<u>8. OutOfRange</u>		

CommentLog

Notes:

The CommentLog table holds the comments with their relation to different WorkID's.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkLog_ID</u>		
<u>3. Comment</u>		
<u>4. WrittenBy</u>	Notes:	The user that inserted the comment
<u>5. InsertTime</u>	Notes:	Timestamp for when the comment was inserted

ControlModule

Notes:

The ControlModule table consists of the configured control modules, like valves and motors.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Tagname</u>		
<u>4. Description</u>		
<u>5. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>6. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

DataLog

Notes:

To be able to verify that all requested data is logged, this table has been created. When the system is running all data that is related to a specific phase status will be stored as a text in the description field.

Column details

<u>1. DateTime</u>	Notes:	Time stamp of when the log was made
<u>2. PhaseName</u>	Notes:	The name of the logged phase
<u>3. Description</u>	Notes:	Description of what has been logged

EquipmentModuleStatusLog

Notes:

???

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkLog_ID</u>	Notes:	
<u>3. Reference</u>	Notes:	
<u>4. DoneBy</u>	Notes:	The user that inserted the ???
<u>5. InsertTime</u>	Notes:	

ErrorLog

Notes:

The ErrorLog table contains all errors that have been generated on the TP developed software's within the Work Tracking concept.

Column details

<u>1. LogID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ApplicationModule</u>	Notes:	
<u>3. ProcedureName</u>	Notes:	
<u>4. ErrorMessage</u>	Notes:	
<u>5. ErrorTime</u>	Notes:	
<u>6. UserName</u>	Notes:	

GraphCommentLog

Notes:

The GraphCommentLog table holds comments that have been added to a graph at a certain time. The comment are in fact added to a certain tag - not the graph.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Comment</u>	Notes:	
<u>3. MarkTime</u>	Notes:	The time where the comment is supposed to be located
<u>4. WrittenBy</u>	Notes:	The user that inserted the comment
<u>5. InsertTime</u>	Notes:	Timestamp for when the comment was inserted
<u>6. Tagname</u>	Notes:	The tag to which the comment are related
		Refers to the UnitParameter table

GraphGroup

Notes:

The GraphGroup table consist of the configured Graph groups.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	
<u>3. Description</u>	Notes:	
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

GraphGroupParameter

Notes:

The GraphGroupParameter table consist of the parameters that are used in certain GraphGroups.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. GraphGroup_ID</u>		
<u>3. Name</u>		
<u>4. Tagname</u>		
<u>5. TransmitterType</u>	Notes:	Describes the type of the transmitter, e.g.: - TT - Temperature - FT - Flow - PT - Pressure - LT - Level
<u>6. TransmitterType_EU</u>	Notes:	The engineering type for the actual transmitter, e.g. °C or kg
<u>7. MinEU</u>	Notes:	Lowest possible value for the certain transmitter
<u>8. MaxEU</u>	Notes:	Highest possible value for the certain transmitter
<u>9. StepSequence</u>	Notes:	This parameter describes weather the parameter is of a step sequence type, meaning that the parameter is supposed to be drawn as a 'stair'. 0 = Not a step sequence 1 = Step sequence
<u>10. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>11. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

LIMSMessagesReceived

Notes:

Column details

<u>1. MessageNumber</u>
<u>2. DateTimeStamp</u>
<u>3. MessageType</u>
<u>4. X1</u>
<u>5. X2</u>
<u>6. X3</u>
<u>7. X4</u>
<u>8. X5</u>
<u>9. X6</u>
<u>10. X7</u>
<u>11. X8</u>
<u>12. X9</u>
<u>13. X10</u>

MaintenanceData

Notes:

The MaintenanceData table consist of maintenance information regarding the control modules.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ControlModule_ID</u>		
<u>3. Activations</u>		
<u>4. OperatingTime</u>		
<u>5. LastService</u>		
<u>6. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>7. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

Material

Notes: The Material table contains information on all the materials that are used within a plant, including raw material, intermediates and finished goods.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. PLC_ID</u>	Notes:	The ID from the PLC
<u>3. SiteMaterialID</u>	Notes:	This parameter is used if the customer has their own Material_ID standard
<u>4. Name</u>		
<u>5. MaterialClass_ID</u>	Notes:	The time stamp for when the row was inserted
<u>6. MaterialType_ID</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>7. Density</u>		
<u>8. LastSaved</u>		
<u>9. ConfiguredBy</u>		

MaterialClass

Notes: The MaterialClass table holds information regarding the different classes of materials, e.g. milk, cream and mixed products.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Description</u>	Notes:	The time stamp for when the row was inserted
<u>4. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>5. ConfiguredBy</u>		

MaterialClassRules

Notes: The MaterialClassRules table consist of the rules between material classes according to process groups and their unit status.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ExistingMaterialClass_ID</u>		
<u>3. NewMaterialClass_ID</u>	Notes:	The time stamp for when the row was inserted
<u>4. ProcessGroup_ID</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>5. UnitStatus_ID</u>		
<u>6. LastSaved</u>		
<u>7. ConfiguredBy</u>		

MaterialRules

Notes: The MaterialRules table consist of the rules between materials according to process groups and their unit status.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ExistingMaterial_ID</u>		
<u>3. NewMaterial_ID</u>	Notes:	The time stamp for when the row was inserted
<u>4. ProcessGroup_ID</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>5. UnitStatus_ID</u>		
<u>6. LastSaved</u>		
<u>7. ConfiguredBy</u>		

TPMDB_Doc_TablesAndColumns

MaterialType

Notes: The MaterialType table holds information regarding the different types of material, e.g. raw material, intermediate and finished product.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	The time stamp for when the row was inserted
<u>3. Description</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. LastSaved</u>		
<u>5. ConfiguredBy</u>		

Node

Notes:

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. NodeGroup_ID</u>	Notes:	The time stamp for when the row was inserted
<u>3. Name</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. Description</u>		
<u>5. LastSaved</u>		
<u>6. ConfiguredBy</u>		

NodeGroup

Notes:

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	The time stamp for when the row was inserted
<u>3. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. ConfiguredBy</u>		

OverrideInfoCause

Notes: The OverrideInfoCause table contains the description of all the causes that can be reported by the system. The content is then used in the OverrideLog table.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Description</u>	Notes:	The time stamp for when the row was inserted
<u>3. LastSaved</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. ConfiguredBy</u>		

OverrideLog

Notes: The OverrideLog table holds current and historical information of overrides of phases.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>	Notes:	The user that override the function
<u>3. OverrideInfoCause_Description</u>		
<u>4. DoneBy</u>		
<u>5. Comment</u>		
<u>6. Phase_Name</u>		
<u>7. PhaseInstanceCounter</u>		

TPMDB_Doc_TablesAndColumns

ParameterChangeLog

Notes: The ParameterChangeLog table is used to be able to log parameter changes in the UI.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit Name</u>		
<u>3. ParameterName</u>		
<u>4. NewValue</u>		
<u>5. OldValue</u>		
<u>6. DateTimeStamp</u>		
<u>7. DoneBy</u>	Notes:	The user that updated the parameter

Phase

Notes: The Phase table contains information about the individual phase. The phase can have attributes such as phase type or destination and source unit in case a transportation of material is considered.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. PhaseType_ID</u>	Notes:	The type of phase, e.g.: - 'Prod' for production - 'Transfer' for a transfer - 'CIP' for a CIP
<u>4. SourceUnit_ID</u>	Notes:	Source UnitID - used for all type of phases
<u>5. DestinationUnit_ID</u>	Notes:	Destination UnitID - used only for transfer phases
<u>6. AmountEngineeringUnit</u>	Notes:	Describes the engineering unit for the specific phase, e.g. kg or l
<u>7. Description</u>		
<u>8. ReturnToUnit</u>	Notes:	For tanks that are "never" emptied, e.g. recovery tanks and oil tanks. Used to avoid long traceability trees. The search criteria will only go back one step at a time
<u>9. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>10. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

Phase_Alarm

Notes: Relation table for Alarm and Phase.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Phase_ID</u>		
<u>3. Alarm_ID</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

PhaseParameter

Notes:

The PhaseParameter table holds configuration information of parameters that are to be logged together with individual phases. The tagname supplied must match a tagname of an analog tag in the InSQL database. All calculations are based on InSQL and the resolution is used to set the number of rows retrieved for calculations.

The bits are 1 or 0 depending on if the type of calculation that should be performed.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Phase ID</u>		
<u>3. Name</u>	Notes:	All parameters are supposed to be included here. Those parameters that are unit related, like level and temperature, are supposed to be linked with the production phase
<u>4. Tagname</u>		
<u>5. TransmitterType</u>	Notes:	
<u>6. TransmitterType EU</u>	Notes:	Describes the engineering unit for the specific parameter, e.g. °C, kg or mS
<u>7. MinEU</u>	Notes:	Used to define the graph's y-axis
<u>8. MaxEU</u>	Notes:	Used to define the graph's y-axis
<u>9. AnalogueDiscrete</u>	Notes:	This parameter is used to describe whether the parameter is analogue or discrete: 0 = Analogue 1 = Discrete
<u>10. Resolution</u>	Notes:	
<u>11. LogMaximum</u>	Notes:	This parameter is used to describe whether a maximum value for the parameter is supposed to be calculated and logged: 0 = No 1 = Yes
<u>12. LogMinimum</u>	Notes:	This parameter is used to describe whether a minimum value for the parameter is supposed to be calculated and logged: 0 = No 1 = Yes
<u>13. LogAverage</u>	Notes:	This parameter is used to describe whether an average value for the parameter is supposed to be calculated and logged: 0 = No 1 = Yes
<u>14. LogSummary</u>	Notes:	This parameter is used to describe whether a summary value for the parameter is supposed to be calculated and logged: 0 = No 1 = Yes
<u>15. LogStartTime</u>	Notes:	This parameter is used to describe whether a start value for the parameter is supposed to be logged: 0 = No 1 = Yes
<u>16. LogEndTime</u>	Notes:	This parameter is used to describe whether an end value for the parameter is supposed to be logged: 0 = No 1 = Yes
<u>17. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>18. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

PhaseType

Notes:

The PhaseType table holds configuration information on the different phase types available.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Description</u>	Notes:	
<u>3. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>4. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

ProcessClass

Notes: The ProcessClass table holds information regarding the different process classes, e.g. Pasteurisers and CIPCircuits.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Description</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

ProcessGroup

Notes: The ProcessGroup table holds information regarding the different process groups, e.g. MilkPasteuriser and RawMilkTanks.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Description</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

ProcessGroup_UnitStatus

Notes: Relation table for ProcessGroup and UnitStatus.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ProcessGroup_ID</u>		
<u>3. UnitStatus_ID</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

QALog

Notes: The QALog table includes header information regarding a quality acceptance.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>		
<u>3. SampleTime</u>		
<u>4. QAResult</u>		
<u>5. Material_Name</u>		

QAParameter

Notes:

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. EngineeringUnit</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

QAParameterLog

Notes:

The QAParameterLog table holds information regarding different QA parameters and their relation to different QA headers in the QALog table.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. QALog_ID</u>	Notes:	
<u>3. QAParameter_Name</u>	Notes:	
<u>4. QAParameter_EngineeringUnit</u>	Notes:	Describes the engineering unit for the specific parameter, e.g. °C, kg or mS
<u>5. QAParameter_Value</u>	Notes:	

QAStatus

Notes:

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Description</u>	Notes:	
<u>3. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>4. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

QualityTestParameter

Notes:

The QualityTestParameter table contain different test parameters that are needed, e.g.. temperature, pH and taste.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. QualityTestType_ID</u>	Notes:	
<u>3. Name</u>	Notes:	
<u>4. EngineeringUnit</u>	Notes:	Describes the engineering unit for the specific parameter, e.g. °C, kg or mS
<u>5. MinEU</u>	Notes:	
<u>6. MaxEU</u>	Notes:	
<u>7. GoodBad</u>	Notes:	The GoodBad parameter indicates weather a result for Good/Bad is expected
<u>8. GoodBad_Value</u>	Notes:	The GoodBad_Value parameter indicates weather the test parameter value was good or bad. 1 = Good 0 = Bad
<u>9. YesNo</u>	Notes:	The YesNo parameter indicates weather a result for Yes/No is expected
<u>10. YesNo_Value</u>	Notes:	The YesNo_Value parameter indicates weather the test parameter value was yes or no. 1 = Yes 0 = No
<u>11. ApprovedOrNot</u>	Notes:	The ApprovedOrNot parameter indicates weather a result for Approved/NotApproved is expected
<u>12. ApprovedOrNot_Value</u>	Notes:	The ApprovedOrNot_Value parameter indicates weather the test parameter value was approved or not approved. 1 = Approved 0 = Not approved
<u>13. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>14. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TPMDB_Doc_TablesAndColumns

QualityTestType

Notes: The QualityTestType table contains different types of test to take depending e.g. of the material and the process cell/class.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	The report name
<u>3. Description</u>	Notes:	The SQL query for the report.
<u>4. LastSaved</u>	Notes:	May not include Delete or Update!!!
<u>5. ConfiguredBy</u>	Notes:	The time stamp for when the row was inserted The user that inserted the row, e.g. system or a certain user

ReportQuery

Notes: The ReportQuery table contain information of the different configured reports.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	The report name
<u>3. SQLQuery</u>	Notes:	The SQL query for the report.
<u>4. LastSaved</u>	Notes:	May not include Delete or Update!!!
<u>5. ConfiguredBy</u>	Notes:	The time stamp for when the row was inserted The user that inserted the row, e.g. system or a certain user

SectionLog

Notes: The SectionLog table works as a relation table between the ShipmentLog table and the WorkLog table, but do also include possibility to divide one shipment into two barrels.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkLog_ID</u>	Notes:	
<u>3. ShipmentLog_ID</u>	Notes:	
<u>4. Barrell</u>	Notes:	
<u>5. Barrel2</u>	Notes:	

ShipmentLog

Notes: The ShipmentLog table holds current and historical information of shipments.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ERP_ID</u>	Notes:	
<u>3. ShipmentStatus_Name</u>	Notes:	
<u>4. SupplierName</u>	Notes:	
<u>5. TruckRegistrationNumber</u>	Notes:	
<u>6. TrailerRegistrationNumber</u>	Notes:	
<u>7. MaterialName</u>	Notes:	
<u>8. ExpectedDateTime</u>	Notes:	
<u>9. ExpectedAmount</u>	Notes:	
<u>10. EngineerinUnit</u>	Notes:	
<u>11. Weighing1_Time</u>	Notes:	
<u>12. Weighing1_ActualAmount</u>	Notes:	
<u>13. Weighing1_StartedBy</u>	Notes:	
<u>14. Weighing2_Time</u>	Notes:	
<u>15. Weighing2_ActualAmount</u>	Notes:	
<u>16. Weighing2_StartedBy</u>	Notes:	
<u>17. ShipmentCIPWorkID</u>	Notes:	

TPMDB_Doc_TablesAndColumns

ShipmentStatus

Notes: The ShipmentStatus table contains the description of all different status that a shipment can be in. The content is then used in the ShipmentLog table.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Description</u>	Notes:	
<u>3. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>4. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

Step

Notes: The Step table contains information regarding the different steps but also a reference to the ProcessClass table.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. ProcessClass ID</u>	Notes:	
<u>3. StepNumber</u>	Notes:	
<u>4. Description</u>	Notes:	
<u>5. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>6. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

StepGroup

Notes: The StepGroup table contains information of the different step groups.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	
<u>3. Description</u>	Notes:	
<u>4. StartStep StepNumber</u>	Notes:	
<u>5. EndStep StepNumber</u>	Notes:	
<u>6. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>7. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

TetraMessageReceivedBuffer

Notes:

Column details

<u>1. MessageNumber</u>
<u>2. DateTimeStamp</u>
<u>3. MessageType</u>
<u>4. X1</u>
<u>5. X2</u>
<u>6. X3</u>
<u>7. X4</u>
<u>8. X5</u>
<u>9. X6</u>
<u>10. X7</u>
<u>11. X8</u>
<u>12. X9</u>
<u>13. X10</u>

TPMDB_Doc_TablesAndColumns

TransferLog

Notes:

The TransferLog table contains information on transportation of material between different units.
All such logging occurs at phase completion, i.e. Done or Aborted.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>	Notes:	Lot information of the delivering supplier in case not in-house
<u>3. LotID</u>	Notes:	
<u>4. Material_Name</u>	Notes:	
<u>5. Material_Density</u>	Notes:	
<u>6. MaterialClass_Name</u>	Notes:	
<u>7. MaterialType_Name</u>	Notes:	
<u>8. Phase_AmountEngineeringUnit</u>	Notes:	Describes the engineering unit for the specific phase, e.g. kg or l
<u>9. SourceEquipmentModuleStatus_Name</u>	Notes:	E.g. a tankline or a line out from a uht Used for traceability
<u>10. DestinationEquipmentModuleStatus_Name</u>	Notes:	E.g. a line to a uht or a tankline Used for traceability
<u>11. TargetAmount</u>	Notes:	
<u>12. RecipeTargetAmount</u>	Notes:	
<u>13. ActualAmount</u>	Notes:	
<u>14. ReturnToUnit</u>	Notes:	For tanks that are "never" emptied, e.g. recovery tanks and oil tanks. Used to avoid long traceability trees. The search criteria will only go back one step at a time

Unit

Notes:

The Unit table contains information on all the unit/equipment in the plant that is relevant for logging purposes and for relating different phases to different unit/equipment.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>	Notes:	
<u>3. UnitType_ID</u>	Notes:	The type of unit/equipment described with one or two letters, e.g.: - T = Tank - TL = Tank line - P = Pasteuriser
<u>4. ProcessClass_ID</u>	Notes:	
<u>5. ProcessGroup_ID</u>	Notes:	
<u>6. StepSequenceTagname</u>	Notes:	
<u>7. EquipmentModule</u>	Notes:	Because units and equipments are similar from many point of views they are located within the same table. The value of the parameter decides whether it is a unit or an equipment module: 0 = Unit 1 = Equipment module
<u>8. WorkID</u>	Notes:	
<u>9. Capacity</u>	Notes:	
<u>10. Capacity_EU</u>	Notes:	Describes the engineering unit for the specific unit, e.g. l or l/h
<u>11. Material_ID</u>	Notes:	
<u>12. AmountTagname</u>	Notes:	
<u>13. QAStatus_ID</u>	Notes:	
<u>14. Active_WorkID</u>	Notes:	
<u>15. PictureName</u>	Notes:	The name of the picture that will be visible in the traceability tree
<u>16. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>17. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

Unit_CIPCircuit

Notes:

Relation table for Unit and CIPCircuit.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit_ID</u>	Notes:	
<u>3. CIPCircuit_ID</u>	Notes:	
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

Unit_ControlModule

Notes:	Relation table for Unit and ControlModule	
Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit ID</u>	Notes:	The time stamp for when the row was inserted
<u>3. ControlModule ID</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. LastSaved</u>		
<u>5. ConfiguredBy</u>		

UnitCapacity

Notes:	This is a relation table within the capacity can be configured according to one or all of: - Which unit it is - The certain unit mode - Which material it is	
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Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit ID</u>	Notes:	Describes the engineering unit for the specific unit, e.g. l or l/h
<u>3. Mode ID</u>	Notes:	The time stamp for when the row was inserted
<u>4. MaterialClass ID</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>5. Capacity</u>		
<u>6. Capacity EU</u>		
<u>7. LastSaved</u>		
<u>8. ConfiguredBy</u>		

UnitMode

Notes:	The UnitMode table contains information of different modes for some units (e.g. pasteurisers).	
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Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit ID</u>	Notes:	The time stamp for when the row was inserted
<u>3. Mode</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>4. Name</u>		
<u>5. Description</u>		
<u>6. LastSaved</u>		
<u>7. ConfiguredBy</u>		

UnitStatus

Notes:	The UnitStatus table contains descriptions of all the unit statuses that can be reported by the system.	
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Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. PLC ID</u>	Notes:	The ID from the PLC
<u>3. Description</u>	Notes:	The time stamp for when the row was inserted
<u>4. StatusRank</u>	Notes:	The user that inserted the row, e.g. system or a certain user
<u>5. LastSaved</u>		
<u>6. ConfiguredBy</u>		

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User_UserGroup

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. User_ID</u>		
<u>3. UserGroup_ID</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

UserGroup

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>4. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

Users

Notes:

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Name</u>		
<u>3. Active</u>		
<u>4. Password</u>		
<u>5. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>6. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

WorkEventInfoCause

Notes:

The WorkEventInfoCause table contains the description of all the causes that can be reported by the system. The content is then used in the WorkEventInfoLog table.

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. PLC_ID</u>	Notes:	The ID from the PLC
<u>3. Description</u>		
<u>4. LastSaved</u>	Notes:	The time stamp for when the row was inserted
<u>5. ConfiguredBy</u>	Notes:	The user that inserted the row, e.g. system or a certain user

WorkEventInfoLog

Notes:

The WorkEventInfoLog table holds current and historical information of phases that have entered and left Held status during the execution of phases.

Column details		
<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>		
<u>3. StartDateTime</u>	Notes:	DateTime when the phase went to Held status
<u>4. EndDateTime</u>	Notes:	DateTime when the phase left Held status
<u>5. WorkEventInfoCause_Description</u>	Notes:	Description of the probable cause of Held
<u>6. CausedBy</u>	Notes:	User that was responsible for the Held, e.g. System or Operator Name
<u>7. CauseEndedBy</u>	Notes:	User that was responsible for taking the system from Held to Run, e.g. System or Operator Name
<u>8. PhaseStatus</u>	Notes:	To view whether the phase were Done or Aborted

TPMDB_Doc_TablesAndColumns

WorkEventLog

Notes: The WorkEventLog table holds current and historical information of phase execution.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkLog_ID</u>		
<u>3. DestinationWorkID</u>		
<u>4. StartDateTime</u>	Notes:	DateTime when phase went to Run status
<u>5. EndDateTime</u>	Notes:	DateTime when phase was Done or Aborted
<u>6. Phase Name</u>		
<u>7. PhaseType Description</u>		
<u>8. PhaseStatus</u>	Notes:	To view wheather the phase were Done or Aborted
<u>9. PhaseInstanceCounter</u>		
<u>10. StartedBy</u>	Notes:	Started by which user, e.g. System or Operator Name
<u>11. EndedBy</u>	Notes:	Ended by which user, e.g. System or Operator Name
<u>12. OverrideBy</u>		
<u>13. OverrideCause</u>		

WorkEventParameterLog

Notes: The WorkEventParameterLog table holds additional information on parameters that is supposed to be logged together with the phase. The information is time based, aggregated information that is retrieved and calculated based on information from Wonderware InSQL.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. WorkEventLog_ID</u>		
<u>3. PhaseParameter_Name</u>		
<u>4. PhaseParameter_TransmitterType</u>		
<u>5. PhaseParameter_EngineeringUnit</u>	Notes:	Describes the engineering unit for the specific parameter, e.g. °C, kg or mS
<u>6. PhaseParameter_MinEU</u>	Notes:	Used to define the graph's y-axis
<u>7. PhaseParameter_MaxEU</u>	Notes:	Used to define the graph's y-axis
<u>8. AnalogueDiscrete</u>	Notes:	This parameter is used to describe weather the parameter is analogue or discrete: 0 = Analogue 1 = Discrete
<u>9. Maximum</u>	Notes:	Maximum value for certain parameter during phase operation.
<u>10. Minimum</u>	Notes:	Minimum value for certain parameter during phase operation.
<u>11. Average</u>	Notes:	Average value for certain parameter during phase operation.
<u>12. Summary</u>	Notes:	Summary value for certain parameter during phase operation.
<u>13. StartValue</u>	Notes:	Starting value of the parameter when phase went to Run
<u>14. EndValue</u>	Notes:	Ending value of the parameter when phase went to Done or Aborted

WorkIDLog

Notes:

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Unit_ID</u>		
<u>3. Unit_Name</u>		
<u>4. ActiveWorkID</u>		

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WorkLog

Notes:

The WorkLog table consists of information that is general to the WorkID.

Column details

<u>1. ID</u>	Notes:	The unique ID (automatically incremented)
<u>2. Alias</u>		
<u>3. Unit Name</u>		
<u>4. UnitMode Name</u>		
<u>5. StartDateTime</u>		
<u>6. EndDateTime</u>		
<u>7. Material Name</u>		
<u>8. Material Density</u>		
<u>9. Material_EngineeringUnit</u>	Notes:	Describes the engineering unit for the specific material, e.g. l or kg
<u>10. Material_TargetAmount</u>		
<u>11. Material_ActualAmount</u>		
<u>12. MaterialClass Name</u>		
<u>13. MaterialType Name</u>		
<u>14. InternalTransfer</u>		
<u>15. StartedBy</u>		
<u>16. EndedBy</u>		
<u>17. UnitCapacity_Capacity</u>		
<u>18. UnitCapacity_CapacityEngineeringUnit</u>	Notes:	Describes the engineering unit for the specific unit, e.g. l or l/h
<u>19. PhaseType Description</u>	Notes:	Previous WorkID for the actual unit - will help for traceability generation. Can also contain CIP WorkID
<u>20. PreviousWorkID</u>		Either CIP or Production to be able to differ them from each other
<u>21. WorkType Description Previous</u>	Notes:	
<u>22. TimeSinceLastOperation</u>		
<u>23. TimeSinceLastCIP</u>		
<u>24. NextWorkID</u>	Notes:	Next WorkID for the actual unit - will help for traceability generation. Can also contain CIP WorkID
<u>25. WorkType Description Next</u>		
<u>26. CommentOccured</u>	Notes:	Will be set to one if any comment related to the phase has been written
<u>27. AlarmOccured</u>	Notes:	Will be set to one if any alarm related to the phase has occurred
<u>28. LatestQAResult</u>		
<u>29. PictureName</u>	Notes:	The name of the picture that will be visible in the traceability tree
<u>30. CIPEventLog_ID</u>	Notes:	Needs to find out CIP's for actual unit
<u>31. StartUnitStatus Description</u>	Notes:	The initial status for the actual unit when the operation is started - can be used for reports

z_cfg

Notes:

Column details

<u>1. Variable</u>	Notes:	
<u>2. ActionValue</u>		
<u>3. Comment</u>		
<u>4. LastSaved</u>		
<u>5. ConfiguredBy</u>	Notes:	The time stamp for when the row was inserted The user that inserted the row, e.g. system or a certain user